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ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

FAR GUIDANCE MATERIAL

Subject: INSTALLATION OF USED ENGINES IN NEW PRODUCTION AIRCRAFT

1. **PURPOSE.** This advisory circular (AC) is to advise that under certain specified criteria, used engines may be used in new production aircraft.
2. **BACKGROUND.** For many years the Federal Aviation Administration (FAA), and its predecessor the Civil Aeronautics Administration, have allowed the use of used engines in new production aircraft, when the engine specified in the type design either was no longer in production, or when the purchaser of a new production aircraft provided engines to the aircraft manufacturer to install in the aircraft he/she had purchased. Notable examples of such use were the used overhauled radial engines installed in a popular twin-engine aircraft throughout its long production run, and also in many agricultural aircraft still being built today. Such practices have recently generated considerable controversy and discussion, mainly with respect to defining the responsibility of the aircraft manufacturer for determining conformity to the type design of an aircraft with used engines installed; that is, should the aircraft manufacturer producing aircraft under FAR 21, Subparts F or G be held responsible for the conformity to the type design of the engines installed in the aircraft it builds. This advisory circular, therefore, is intended to set forth criteria in keeping with regulatory requirements, but is NOT intended to expand the use of used engines in new production aircraft beyond those situations where such use was allowed in the past.
3. **CRITERIA.** Used engines may be installed in new production aircraft produced under FAR 21, Subparts F or G, subject to the following conditions:
 - a. All ancillary installations that compose the powerplant, and that are not part of the engine, must conform to the type design for the aircraft and be in condition for safe operation. Such installations, if used, must have been maintained in accordance with FAR 43.
 - b. New production aircraft with used engines installed must meet all of the production flight test parameters established in the type design and the approved production flight test procedures. If any of the production flight

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test parameters cannot be met because of the condition of a used engine, the aircraft is not eligible for an airworthiness certificate unless the engine is repaired or is replaced with one that enables the aircraft to meet all flight test requirements applicable to a new production aircraft; and,

c. The maintenance records for used engines, and, if applicable, the ancilliary installations, must be in accordance with FAR 91.173 or FAR Parts 121, 127, or 135, and must accompany the engine. These records should be provided by the aircraft manufacturer to the buyer of the aircraft, unless the buyer provides his/her own engine (ref. paragraph 3d(2)). Information concerning maintenance records, including procedures to be used when records have been lost or destroyed, are in FAA Advisory Circular No. 43-9A, "Maintenance Records: General Aviation Aircraft".

d. Points also to be considered when airworthiness certificates are issued under these criteria:

(1) When the type design calls out an engine no longer in production, and used engines to meet production needs are procured by the aircraft manufacturer, the engines should be either newly overhauled or newly rebuilt (ref. FAR 91.175(c)); or,

(2) When a used engine is provided by the buyer of a new production aircraft for use in his/her own aircraft, or the buyer agrees to accept the new aircraft with a used engine until a new engine becomes available, the engine need not be newly overhauled; however, the provisions of preceding paragraphs 3a and 3b must be met, the engine and ancilliary installations must have been maintained in accordance with Part 43, and the maintenance recorded in accordance with FAR 91, 121, 127, or 135 as applicable.



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